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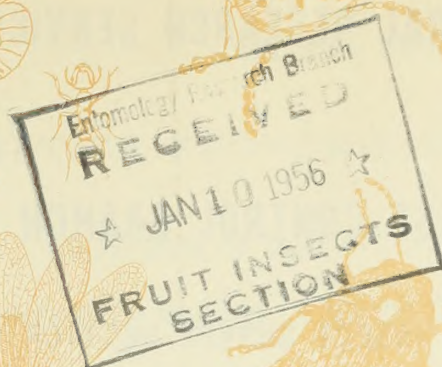
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JANUARY 6, 1956



Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Economic Insect Survey Section
Plant Pest Control Branch
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

BOLL WEEVIL hibernation survey in North Carolina and Mississippi. (p. 3).

A GRAIN BEETLE (Pharaxonotha kirschi) reported from California for first time. (p. 5).

SUMMARY OF INSECT CONDITIONS - 1955 - in Delaware (p. 6) and Colorado (p. 11).

WEATHER BUREAU'S 30-DAY OUTLOOK

January 1956

The Weather Bureau's 30-day outlook for January calls for temperatures to average below seasonal normals in the eastern third of the nation. Above normal temperatures are indicated from the Mississippi westward to the Pacific with greatest departures in the southern Rockies. Precipitation is expected to be near or above normal in the Southwest and along the West Coast. In the remainder of the country generally subnormal amounts are predicted.

This report released by the Weather Bureau on December 30, 1955.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 for six months.

Reports in this issue are for the week ending December 30, 1955, unless otherwise designated.

WEATHER FOR THE WEEK ENDING JANUARY 2, 1955

Continued above normal temperatures over large sections of the United States and decrease of rain in the flooded West Coast areas during the last week in December, produced a less eventful weather sequence than that of the earlier weeks of the month. However, the long period with deficient precipitation in the Central Plains area brings a threat of increasing dust storms. On January 1 a severe storm was reported in western Kansas reducing the visibility at Goodland to 1/16 mile for 5 hours; winds of 45 miles an hour and gusts up to 60 carried dust as far east as Chanute. Above normal temperatures in west central Great Plains continued as low pressure cells passed over the area at the beginning of the period. Along the Canadian Border and in Eastern sections temperatures fluctuated between warm and cold with the passage of several frontal systems. Temperatures for the week averaged as much as 10 degrees below normal in the Eastern portions of the country and by as much as 6 degrees in the far Northwest. Northern and central Florida experienced freezing temperatures as a cold high pressure pushed into the region on January 2.

The West Coast again is the region of high precipitation. In northern California the amounts were not heavy enough to cause recurrence of floods. Early and late in the period, Oregon and Washington received moderate to heavy falls. Light to moderate precipitation occurred intermittently along northern areas and on Thursday and Friday in the South with some heavy amount on the east coast of Florida Peninsula. The lack of precipitation is a growing problem in the Southwest, middle and southern Great Plains and most of the middle Atlantic and the Southeast. Oklahoma reports nearly 3 months of dry weather and preliminary reports from Maryland and New Jersey indicate this may be the driest December on record.

Snowfall occurring during the latter part of the period increased snow-covered depths in areas of southwest Montana, Wyoming, Washington, New York and some of the New England States. A fall of ten inches of new snow was reported at Boonville, New York on Friday bringing the total snow cover there to 19 inches. Depths over extreme Northern areas of the country range from 3 to 30 inches. In mountain areas, Mt. Baker Lodge, Washington reports a depth of 161 inches, Twin Lakes, California 88 and Crater Lake, Oregon 86. (Summary Supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

SPOTTED ALFALFA APHID - CALIFORNIA - In addition to counties on distribution map (CEIR 5(50):1094), infestations have been found in Alameda County (Nov. 23) and in Sutter County (Nov. 28). (Cal. Coop. Rept.).

FRUIT INSECTSCitrus Insect Situation, Florida, Third Week of December

Reduction in activity for purple scale, Florida red scale, citrus red mite. Activity unchanged for citrus rust mite. (Pratt, Thompson, Johnson). Soft scale nymphs averaging 50-100 per leaf on citrus at Tampa, Hillsborough County, Dec. 20. (Thalgott).

COTTON INSECTSBoll Weevil Hibernation Counts - 1955

NORTH CAROLINA - During December, 600 square yards of surface woods trash were examined in North Carolina. Five farm sites each in twelve counties were examined. The average number of live boll weevils per acre per county found in the 1954 and 1955 fall examinations in these counties was as follows:

	<u>1954</u>	<u>1955</u>
Wilson	2,130	--
Robeson	--	5,324
Union	--	2,807
Cleveland	290	5,033
Franklin	1,065	2,710
Hoke	484	7,744
Harnett	1,334	1,646
Edgecombe	--	2,420
Scotland	968	14,714
Rowan	1,549	4,937
Wayne	--	580
Northampton	--	194
Sampson	2,904	1,646
Halifax	<u>2,614</u>	<u>--</u>
Average of all samples	1,334	4,146

Other insects recorded in these examinations include bean leaf beetle, Fuller rose beetle, Mexican bean beetle and lady beetles. (Walker, Mistic et al). MISSISSIPPI - During the first week of December 1955, 160 samples of surface woods trash were examined from 7 counties in Mississippi. Samples were taken from Delta Counties of Bolivar, Issaquena, Leflore, Sharkey and Washington and from hill counties of

Oktibbeha and Rankin. Examinations showed live boll weevils to be present at various rates per sample ranging from 0 to 27,830 per acre with an average of 5,054 per acre.

Since this program is just being initiated in Mississippi comparable figures for past years are not available. (Merkl et al).

TRUCK CROP INSECTS

INSECTS ON GREENS - OKLAHOMA - Populations in Arkansas River Valley are lower than in the past two years. No populations of commercial importance found. (Hensley).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A WAX SCALE (Ceroplastes rubens)-FLORIDA - Collected on aralia and philodendron at Miami, Dade County, Dec. 5. (Daigle). Apparently this is the first report of this species in the United States.

A PEONY SCALE (Pseudaonidia paeoniae)-FLORIDA - Nymphs and adults averaging 10 per square inch of stem of camellia and azalea at Pensacola, Escambia County, Dec. 5. (Albritton, Bragdon).

AN APHID (Myzus dianthi)-WASHINGTON - Correction CEIR 5(52):1130 Myzus persicae should read M. dianthi. (Johansen).

INSECTS AFFECTING MAN AND ANIMALS

CLUSTER FLIES - UTAH - Annoying in northern area homes. (Knowlton).

CATTLE LICE - UTAH - Serious problem in some Weber County herds. (Knowlton).

CATTLE GRUBS - OKLAHOMA - Counts at Pawhuska, Osage County, averaged 12-15 per animal. (Howell).

MISCELLANEOUS INSECTS

BROWN-BANDED ROACH (Supella supellectilium)-OKLAHOMA - Infestations numerous in Payne County recently. (Bieberdorf).

POWDER POST BEETLES - UTAH - Have severely damaged hardwood furniture in a home at Logan. Furniture was shipped in a year ago. (Knowlton).

OLD HOUSE BORER (Hylotrupes bajulus) FLORIDA - Larvae in dry pine woodwork at Orlando, Orange County. (Det. L. A. Hetrick). (Denmark).

BOXELDER BUG (Leptocoris trivittatus) OKLAHOMA - Invading many houses in north central area. (Howell).

Light Trap Collections

FLORIDA (Lakeland, Dec. 8 & 19): Feltia subterranea, 9; Heliothis zea, 4. (Gainesville, Dec. 16 & 20): Feltia subterranea 1; Pseudaletia unipuncta 6. (Monticello, Dec. 8): Feltia subterranea, 3. (Sanford, Dec. 16): Feltia subterranea, 1. (Belle Glade, Dec. 12): Feltia subterranea, 7.

STORED PRODUCTS INSECTS

KHAPRA BEETLE (Trogoderma granarium) - CALIFORNIA - First record of established infestation in San Diego County, August 24, 1955, in rolled barley feed near El Cajon. Infestation light. (Cal. Coop. Rept.).

A GRAIN BEETLE (Pharaxonotha kirschi) - CALIFORNIA - Found for first time in State in mixed grain at Colton in San Bernardino County, December 5, 1955. Known to occur in Texas and Illinois. (Cal. Coop. Rept., Dec. 19).

SUMMARY OF INSECT CONDITIONS

DELAWARE

Reported by H. E. Milliron

Corn Insects

EUROPEAN CORN BORER (Pyrausta nubilalis) pupation proceeded rapidly in Sussex County by April 7 with 50 percent pupated in one corn field near Greenwood; adults were observed throughout the State by May 25, and eggs were found on taller corn and on weeds. Leaf damage by small borers occurred commonly in Sussex and Kent Counties in early June--more severe later than last season. Heavy borer populations were encountered at many places by late June. Pupation of first-generation borers occurred by mid-July as far north as Rising Sun. Heavy infestations were recorded in the vicinities of Greenwood and Bridgeville, in early August. Fall survey revealed a State average of 240 borers per 100 stalks, an increase of 300 percent, or four times the borer population the preceding season. CORN EARWORM (Heliothis zea) adults appeared in early June, and the first small larvae were found in corn near Little Creek; numerous in young tassels of early sweet corn from Dover southward; injury to whorls of field corn conspicuous at some places in Sussex County by third week of that month. Destructive to tassels and ears of sweet corn throughout the State in July, especially in Sussex County. Small larvae were common in ears of field corn, in August. Abundant adults were observed toward end of the season in alfalfa near Lincoln. The insect was equally as destructive as in 1954. Few SAP BEETLE (Carpophilus lugubris) adults found by mid-June in corn plants infested by other pests; abundant in damaged tassels and whorls and present in uninjured plants by end of month from Mt. Pleasant southward. Adults were very abundant generally and very destructive to untreated corn in Sussex and Kent Counties throughout July and August. CUTWORMS (Agrotis ypsilon, Feltia subgothica) were injurious to young corn from mid-May to early June at several places. Numerous SEED-CORN MAGGOT (Hylemya cilicrura) adults observed emerging during May in fields in Kent and Sussex Counties and estimated loss in some cases amounted to 10 percent. CORN ROOT APHID (Anuraphis maidiradicis) was very abundant in areas with lighter soils at numerous locations from Townsend southward in June, wilting and retarding the growth of many plants. CORN LEAF APHID (Rhopalosiphum maidis) was much more destructive than usual to tassels and top leaves of both sweet and field corn during July and August, throughout the State. CORN FLEA BEETLE (Chaetocnema pulicaria) adults were active in grassy meadows and on volunteer corn during April in Kent and Sussex Counties. They were numerous and destructive on sweet corn at many places in May. High percentage of bacterial wilt, associated with prior feeding, was evident in June in both sweet- and field-corn plantings. ARMYWORM (Pseudaletia unipuncta) caused moderate damage to corn in some areas. Some scattered injury was evident in whorls of field corn until mid-June. FALL ARMYWORM (Laphygma frugiperda) was more injurious than last season, and as severe as in 1950 in whorls of late corn.

Cereal and Forage Insects

Numerous ARMYWORM moths observed in flight on April 21 and eggs and small larvae were found in grassy meadows in western and northern Sussex County in mid-May. Feeding on barley, wheat, oats, rye and timothy was light generally, except approximately 20 acres of wheat at Harrington. Large acreages of timothy at Andrews ville and Mt. Pleasant were severely damaged. Larval activity continued in cereal and hay crops until mid-June. The pest was not unusually abundant except in small, restricted areas. Light to moderately heavy infestations of ENGLISH GRAIN APHID (Macrosiphum granarium) occurred during April and May on rye, barley and wheat generally. Recorded as numerous only on small grains in some locations. Somewhat more injurious than in 1954. EUROPEAN WHEAT STEM SAWFLY (Cephus pygmaeus) adults were prevalent and ovipositing in wheat and barley from Townsend southward during May. Some lodging, later, was attributed to this pest. BLACK GRAIN STEM SAWFLY (Cephus tabidus) adults were unusually abundant near Middletown early in May. ALFALFA WEEVIL (Hypera postica) larvae were active throughout the State by early April, producing heavy infestations generally in untreated first-growth alfalfa south of Summit Bridge by the end of that month, rendering many plantings complete losses and prompting early cutting of others. Sweetclover and burclover and red clover were also infested at some locations. Early in June, heavy feeding by adults and larvae greatly retarded second growth. The pest was much more injurious than in the preceding season. PEA APHID (Macrosiphum pisi) was heavy throughout the State during April and May on all forage legumes, especially alfalfa and caused severe stunting and yellowing of this crop prompting early cutting of first growth at many places. Second growth was also heavily infested in early June at most locations. This pest has become increasingly important. MEADOW SPITTLEBUG (Philaenus leucophthalmus) hatching was well underway the first week of April; very prevalent on red clover throughout the State during May, less so on alfalfa. In general, no more destructive than in the preceding year. CLOVER LEAF WEEVIL (Hypera punctata) was responsible for much leaf injury to red clover. LESSER CLOVER LEAF WEEVIL (H. nigrirostris) was the most severe pest on red clover in the State, causing destruction to growing points and leaves and much reduction of bloom. GREEN CLOVERWORM (Plathypena scabra) caused moderate damage to second- and third-growth alfalfa generally. ALFALFA PLANT BUG (Adelphocoris lineolatus) adults were observed at lights June 7 and were present throughout the State but most common north of Dover. POTATO LEAFHOPPER (Empoasca fabae) in usual numbers occurred on alfalfa and clovers generally; no perceptible damage was noted anywhere. TARNISHED PLANT BUG (Lygus lineolaris) was unusually abundant on forage legumes.

Soybean Insects

STRAWBERRY SPIDER MITE (Tetranychus atlanticus) was very destructive in Sussex and Kent Counties, during late July and August. GREEN CLOVERWORM (Plathypena scabra) was one of the most important leaf feeders generally throughout season. GRASSHOPPERS (Melanoplus spp.) were active in Kent and Sussex Counties. JAPANESE BEETLE (Popillia

japonica) caused light to heavy injury in some areas. BEAN LEAF BEETLE (Cerotoma trifurcata) adults damaged emerging seedlings in Sussex County and were abundant in Sussex County. Numerous SEED-CORN MAGGOT adults emerged in fields on Primehook Neck, May 19-25.

Vegetable Insects

CABBAGE LOOPER (Trichoplusia ni) was destructive as usual on crucifers; also attacked tomatoes, potatoes and peppers at many places in July and August. Light to very severe infestations of CABBAGE APHID (Brevicoryne brassicae) occurred on various crucifers, completely ruining small plantings in a few cases. IMPORTED CABBAGEWORM (Pieris rapae) damaged cabbage generally and destructive in cruciferous seedbeds during July. A FLEA BEETLE (Phyllotreta cruciferae) was a serious pest of all crucifers throughout season. Importance has increased annually since 1950. PEA APHID was abundant on commercial peas in May generally, requiring much control operations. Some untreated acreages were almost total losses. Heavy injury by MEXICAN BEAN BEETLE (Epilachna varivestis) was recorded on snap beans near Clayton, in July but less destructive to limas than in 1954. BEAN APHID (Aphis fabae) in several heavy infestations on commercial limas occurred in northern Sussex County in late July. GREEN CLOVERWORM (Plathypena scabra) was a pest of commercial peas at Slaughter Beach early in June, was heavy on snap beans near Greenwood and was light to moderately heavy on limas from Middletown southward in July. SPIDER MITES (Tetranychus atlanticus and T. telarius) were injurious on limas at various places, the former more abundant and destructive. Neither was as injurious as in preceding season. TOBACCO AND TOMATO HORNWORMS (Protoparce sexta and P. quinquemaculata)-former less abundant than in 1954--occurred on tomatoes and peppers generally, except late in the season. TOMATO RUSSET MITE (Vasates lycopersici) occurred in two spotty infestations in Kent County and four in Sussex County. The most severe covered approximately fifty square feet. CORN EARWORM or TOMATO FRUITWORM attacked snap and lima beans at numerous places and was injurious to tomatoes generally. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) in normal numbers occurred on potatoes generally. It was severe on eggplant at Ellendale and Georgetown and very troublesome on tomatoes throughout the State, requiring considerable control effort during entire season.

TARNISHED PLANT BUG (Lygus lineolaris) was very prevalent on potatoes generally; also troublesome on tomatoes and lima beans. CUTWORMS (Agrotis ypsilon, A. gladiaria and Feltia subgothica) caused much damage in newly-planted tomatoes throughout the State early in the season, particularly the former species. SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) adults caused some injury to squash early in the season and was very prevalent as usual on lima beans. HORNED SQUASH BUG (Anasa armigera) encountered at numerous localities damaging squash, pumpkin-squash and cucumbers. SQUASH BUG (A. tristis) heavily infested pumpkin at some places in Kent County. ASPARAGUS BEETLE (Crioceris asparagi) was responsible

for normal amount of injury from Smyrna southward. ONION THRIPS (Thrips tabaci) was destructive to small onion plantings. STALK BORER destroyed considerable numbers of pepper plants at Dover and elsewhere. EUROPEAN CORN BORER was common in stalks of potatoes at many places and caused some droppage of pepper fruits.

Fruit Insects

PLUM CURCULIO (Conotrachelus nenuphar) adults were more abundant on peaches in late April than last year. Controls prevented unusual amount of damage. CODLING MOTH (Carpocapsa pomonella) spring brood emergence began April 20, reached peak in late May, and continued for more than two months, necessitating well-spaced insecticide operations. It was somewhat more troublesome throughout the season than in 1954. APPLE APHID (Aphis pomi) was abundant enough at places by late April to warrant control. EUROPEAN RED MITE (Metatetranychus ulmi) populations were held in check by adequate control until late fall. Heavy egg counts were recorded at Georgetown early in December. RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) in general was much more prevalent than in 1954. ORIENTAL FRUIT MOTH (Grapholitha molesta) was not unusually destructive. STRAWBERRY ROOT APHID (Aphis forbesi) was injurious to plants in light soils at Vandyke and at Georgetown. STRAWBERRY APHID (Pentatrichopus fragaefolii) heavily infested plantings in Georgetown-Bridgeville area May 5-11. MEADOW SPITTLE-BUG (Philaenus leucophthalmus) was moderately abundant everywhere on strawberry early in season. SPRING CANKERWORM (Paleacrita vernata) caused noticeable injury to apple foliage from Newark to Felton in May. UNSPOTTED TENTIFORM LEAF MINER (Callisto geminatella) damage to apple foliage common in early August at Newark, Dover and Georgetown. YELLOW-NECKED CATERPILLAR (Datana ministra) caused partial defoliation to apple near Dover. FALL WEBWORM (Hyphantria cunea) fed on apple foliage at Newark and Dover in August.

Forest and Shade Tree Insects

MIMOSA WEBWORM (Homadaula albizziae) was less destructive, generally, than in 1954. BAGWORM (Thyridopteryx ephemeraeformis) defoliated many sycamore, juniper, arborvitae and spruce trees, as usual, throughout the State, June-August. EASTERN TENT CATERPILLAR (Malacosoma americanum) was very abundant on wild cherry everywhere, April-May; also present on sweet gum. Many adults attracted to lights in June. JAPANESE BEETLE (Popillia japonica) caused usual severe damage to elm at many places; pest occurred in normal numbers. ELM LEAF BEETLE (Galerucella xanthomelaena) was severe at all locations. ASIATIC OAK WEEVIL (Cyrtepidomus castaneus) adults fed on oaks near Harrington in June. A PLANT BUG (Plagiognathus albatus) caused severe damage to sycamore foliage throughout the State, in June. WEBWORMS (Salebria afflictella and Tetralopha melanogrammos) were present on sweet gum as in 1954, but somewhat less destructive. AN OAK MITE (Oligonychus bicolor) was responsible for severe leaf discoloration on pin and willow oaks in some parts of New Castle County. CATALPA SPHINX (Ceratonia catalpae) caused heavy defoliation generally. YELLOW-NECKED CATERPILLAR (Datana ministra) fed on

red and pin oaks at many places. FALL WEBWORM (Hyphantria cunea) attacked black walnut near Townsend; rather common on trees in Ellendale State Forest, and on persimmon at Cheswold. HOLLY LEAF MINERS (Phytomyza spp.) caused widespread injury, especially in the Dover area. A LOOPER (Lambdina athasaria pellucidaria) adults were abundant in Sussex County pine forests, in late April - early May. WOOLLY ELM APHID (Eriosoma americanum) were prevalent on American elm in Smyrna-Leipsic-Dover area. A SEED MINER (Nepticula sericopeza) was heavy in seeds of Norway maple in northern New Castle County, causing much droppage during June. Hard maple foliage, at tips of branches, was attacked by Neoprociphilus aceris, at Newark; Prociphilus fraxinifolii injured white ash in the Wilmington area

Ornamentals

AZALEA LACE BUG (Stephanitis pyrioides) was very prevalent in the Newark and Wilmington area, May-June. ROSE LEAF BEETLE (Nodonta puncticollis) adults were injurious to rose and birch at Newark. BOXWOOD PSYLLID (Psylla buxi) caused much deformity of terminal leaves of American boxwood in New Castle and Kent Counties. JAPANESE BEETLE (Popillia japonica) was destructive to commercial zinnias near Little Creek, and to various ornamentals throughout southern half of the State.

Pests of Man and Animals

Emphasis on control reduced HOUSE FLY (Musca domestica) to somewhat below the population level of the 1954 season. AMERICAN DOG TICK (Dermacentor variabilis) adults were common along roadsides and in wooded areas in late April - early May. SALT-MARSH MOSQUITO (Aedes sollicitans) was more abundant and annoying during entire season than for the past ten or fifteen years. LONE STAR TICK (Amblyomma americanum) - One specimen was obtained north of Wilmington, in May. STRAWBERRY ROOT WEEVIL and related species (Brachyrhinus ovatus and B. rugosostriatus) - Many adults entered houses in Newark-Wilmington area, July-August. ASIATIC OAK WEEVIL numerous adults were attracted to lights and entered buildings in New Castle County during August. BOXELDER BUG (Leptocoris trivittatus) invaded many homes in late summer. BLACK WIDOW SPIDER (Latrodectus mactans)-many specimens taken in and about buildings near Newark; generally abundant in northern Delaware, as was also the CLOVER MITE (Bryobia praetiosa).

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SOME MAJOR INSECT PESTS IN COLORADO IN 1955

Reported by

Colorado Insect Detection Committee

POTATO PSYLLID (Paratrioza cockerelli) populations continued high throughout the season in eastern Colorado. Application of insecticides to potatoes and tomatoes was highly successful in maintaining control. CODLING MOTH (Carpocapsa pomonella) population began emerging May 5 in western Colorado; slow and scattered. In 1954 first moth April 22. Much emergence continued over a period of 50 days, 1954 season 35 days. All orchards have damage, running from 15 to 50 percent. A SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis), reported for the first time in Colorado last season southeast of Windsor, developed into a major problem locally in Weld and Larimer Counties. Detailed biological studies on development, overwintering and spring emergence have been carried out. Soil conditions at the time of planting very important. Adequate moisture and soil temperatures for rapid germination are important in keeping this maggot as well as the SEED-CORN MAGGOT (Hylemya cilicrura) under control. In 1954 the seed-corn maggot was found along with the sugar-beet root maggot, forming a complex that was responsible for reduction in stands.

APHIDS were particularly abundant on several crops: (1) PEA APHID (Macrosiphum pisi) populations reached damaging numbers requiring control in eastern Colorado, and particularly the Arkansas Valley. (2) SPOTTED ALFALFA APHID, taken in 1954 in Otero County on alfalfa, has been recorded from Pueblo, Otero, Crowley, Bent, Prowers, Washington and Yuma Counties. It now has been recorded from Weld and Larimer Counties on the eastern slope and from Mesa County in western Colorado. It occurred in a complex with the pea aphid. (3) CORN LEAF APHID (Rhopalosiphum maidis) occurred through the agricultural areas of the State, causing moderate to severe damage to barley, oats, wheat, sorghums, and corn. The areas included eastern and western slopes and the San Luis Valley. Insecticide treatments were recommended.

The CORN EARWORM or TOMATO FRUITWORM (Heliothis zea), a major pest to both corn and tomatoes in Colorado, particularly in the Arkansas Valley, has been followed closely through the use of light traps and weekly egg counts on both corn and tomatoes. Infestations in corn reached 100 percent by the first week in September. Larvae were leaving the corn and pupating August 24. Egg counts on tomatoes showed a noticeable increase September 14. Late insecticide treatments advised September 22 on tomatoes showed definite benefit. The rangeland GRASSHOPPER complex and the damage associated with it showed a very positive spurt in July in areas in northeastern Colorado neglected in the 1954 control program. A serious situation developed in July in southeastern Colorado from a migratory population of migratory grasshopper (Melanoplus mexicanus) that moved in from neighboring states. This infestation was of serious concern to agricultural crops already affected

by severe drought. An infestation of the rangeland complex in southeastern Las Animas County and Baca County was very serious. MEXICAN BEAN BEETLE (Epilachna varivestis) was serious in northeastern Colorado in Larimer, Weld and Adams Counties, and in western Colorado in Montrose, Delta and Mesa Counties. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) occurred in damaging populations on corn in widespread areas through eastern Colorado and in Montrose, Delta and Mesa County areas in western Colorado. SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) was taken in very high numbers during the summer in light trap samples. High incidence of aster yellows were reported in carrots (Weld County) and in celery (Larimer County). Moderate infections occurred in onions and potatoes. BEET LEAFHOPPER (Circulifer tenellus) in western Colorado was responsible for curly top in tomatoes, 5 to 10 percent, and in sugar beets, as high as 60 percent.

USDA, AGRICULTURAL RESEARCH SERVICE
ENTOMOLOGY RESEARCH BRANCH
FRUIT INSECTS SECTION
3-7-55 PLANT INDUSTRY STATION
IPS BELTSVILLE, MD

